AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0023] with the following amended paragraph:

[0023] Figures 1A-1C schematically illustrate various embodiments of the present invention with an abutted junction structure. A magnetoresistive ("MR") read head 10 comprises a MR sensor 20 and a bias structure 30 adjacent to the MR sensor 20. The bias structure 30 provides a magnetostatic bias field for the MR sensor 20. The bias structure 30 comprises an underlayer 40, a hard bias ("HB") layer 50 over the underlayer 40, and at least one dusting layer 60a or 60b. The dusting layer 60a or 60b is directly below at least one of the underlayer 40 or the HB layer 50. In the embodiment schematically illustrated by Figure 1A, the dusting layer 60a is directly below the underlayer 40. In the embodiment schematically illustrated by Figure 1B, the dusting layer 60b is directly below the HB layer 50. In embodiments with two dusting layers, such as the embodiment schematically illustrated by Figure 1C, a first dusting layer 60a is directly below the underlayer 40 and a second dusting layer 60b is directly below the HB layer 50. In certain embodiments, such as those illustrated by Figures 1A-1C, the MR read head 10 further comprises an electrically conductive lead layer 70 over the HB layer 50.

Please replace paragraph [0024] with the following amended paragraph:

[0024] In certain embodiments, the MR sensor 20 is selected from a group consisting of a giant magnetoresistive (GMR) sensor, an anisotropic magnetoresistive (AMR) sensor, a tunneling magnetoresistive (TMR) sensor, a spin-dependent-tunneling (SDT) sensor, a spin valve (SV) sensor, a current-in-plane (CIP) sensor, and a current-perpendicular-to-the-plane (CPP) sensor. In embodiments in which the MR sensor 20 comprises a patterned GMR stack, as schematically illustrated by Figure 1A, the MR sensor 20 comprises a dielectric layer 22 (e.g., aluminum oxide) formed on a substrate 23 (e.g., silicon), a pinning layer 24 over the dielectric layer 22, ~~a spacer layer 25 over the pinning layer 24,~~ a pinned layer 25 [[26]] over the pinning ~~spacer~~ layer 24 [[25]] and antiferromagnetically coupled to the pinning layer 24 by a nonmagnetic coupling layer

(not shown), a spacer layer 26 over the pinned layer 25, a free layer 28 over the spacer ~~pinned~~ layer 26, and an overlayer 29. The GMR-stack structure of the MR sensor 20 of Figure 1A is exemplary; other types and structures of MR sensors 20 are compatible with embodiments described herein.

Please replace paragraph [0025] with the following amended paragraph:

[0025] In certain embodiments, the underlayer 40 comprises a material selected from a group consisting of chromium, chromium-containing alloy, tungsten, tungsten-containing alloy, nickel-aluminum alloy, and iron-aluminum alloy. The chromium-containing alloy can comprise a material selected from a group consisting of titanium, vanadium, molybdenum, manganese ~~maganese~~, and tungsten. The tungsten-containing alloy can comprise a material selected from a group consisting of chromium, titanium, vanadium, and molybdenum. The material of the underlayer 40 of certain embodiments is selected to provide good lattice match with the material of the HB layer 50 (e.g., Cr underlayer 40 with a CoPt HB layer 50). In certain embodiments, the underlayer 40 has a thickness in a range from approximately 20 Angstroms to approximately 250 Angstroms. In still other embodiments, the underlayer 40 has a thickness in a range from approximately 70 Angstroms to approximately 200 Angstroms. Other materials and thicknesses of the underlayer 40 are compatible with embodiments described herein.

Please replace paragraph [0039] with the following amended paragraph:

[0039] Figure 5A is a plane-view transmission ~~transmision~~-electron-microscopy ("TEM") image of a 195-Angstrom-thick CoPt HB layer 50 on a 70-Angstrom-thick Cr underlayer 40 on an Al2O3 dielectric layer 22 on a Si substrate 23 (i.e., Si/Al2O3/70ÅCr/195ÅCoPt). Figure 5B is a plane-view TEM image of a similar structure, but with a 3 Angstrom-thick W dusting layer 60a between the Al2O3 dielectric layer 22 and the Cr underlayer 40 (i.e., Si/Al2O3/3ÅW/70ÅCr/195ÅCoPt). Each of Figures 5A and 5B illustrates an approximately 350 nanometers by 350 nanometers square area of the HB layer 50. For a conventional structure without the dusting layer

60a, Figure 5A illustrates a polycrystalline grain structure with an average grain size of approximately 17.6 nanometers. For a structure which includes the dusting layer 60a, Figure 5B illustrates a much smaller grain size of approximately 10 nanometers. In addition to the grain size reduction, the W dusting layer 60a has improved the grain size uniformity, which is also desirable.